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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

SE-5J

ACTION MEMORANDUM

DATE: SEP 0 6 2000

SUBJECT: **Enforcement Action Memorandum** - Request for a Time Critical Removal Action at the Nicor Mercury Spill Sites, Chicago Suburbs, Cook DuPage, Kane, Lake, LaSalle and McHenry Counties, Illinois (Site ID#B5P9)

FROM: Bradley T. Stimple, On-Scene Coordinator B.T.S.
Emergency Response Branch - Response Section III

TO: William E. Muno, Director
Superfund Division

THRU: Richard C. Karl, Chief R. Karl
Emergency Response Branch

I. PURPOSE

The purpose of this Memorandum is to make a threat determination and document actions necessary to mitigate an imminent and substantial threat to public health, welfare, and the environment at numerous residential and commercial locations in primarily Suburban Chicago areas that are a portion of the Nicor Mercury Spill (NMS) Sites . This response action is necessary to mitigate the immediate threat to public health, welfare, and the environment posed by the release of metallic mercury and mercury vapors in scrap/salvage yards, Nicor Gas service centers and industrial facilities located in Cook , DuPage, Kane, Lake, La Salle and McHenry Counties, Illinois.

This response action is conducted pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1), as amended, by locating, screening, recovering, and cleaning up mercury spilled in scrap yards involved in the improper disposal of mercury and mercury gas regulators, Nicor Gas (Nicor) field service centers where mercury regulators were

improperly handled, and other industrial facility interiors. The response action will include appropriate characterization and off-site disposal of the mercury and mercury-contaminated media as well as mercury contaminated regulators and impacted soil. The removal action is considered time-critical due to the presence of metallic mercury which has yielded elevated mercury vapor levels in at least some of these facilities, threatening the health and welfare of workers and other occupants and threatening to migrate into the environment. Additionally, the presence of mercury in gas regulators disposed of as scrap poses a potential for migration into the environment and a potential health threat to workers of those facilities.

The NMS Sites are not on the National Priorities List (NPL). The various service centers, scrap yards and other facilities are treated together for purposes of this Action Memorandum because they have similar sources, have similar contamination and will involve similar response activities, and because Nicor is the primary potentially responsible party for all locations.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID#: ILN000508064

A. Physical Location and Description

The NMS Sites initially consisted of private residences located in multiple Chicagoland towns and communities throughout the Nicor service area in Cook, DuPage, Kane, Lake, La Salle, and McHenry Counties, Illinois. Metallic mercury was discovered in the basements of the homes, where old gas regulators and meters were being replaced by Nicor gas company and/or their subcontractors. Elevated mercury vapor levels were detected throughout the entire residence in many cases. Additionally, old mercury gas regulators that were disposed of as scrap but which still contain elemental mercury have been discovered at several city and suburban scrap yards. Elevated mercury vapor levels have been detected at Nicor service centers both inside and outside of the facilities. These scrap yards and service centers are also now considered part of the NMS Sites. It is not known at this time how many industrial facilities may have been affected by improper mercury regulator replacement .

Due to the scattered, numerous locations of mercury contamination that has occurred as a result of Nicor's irresponsible regulator removals, it is not possible to complete a comprehensive Environmental Justice analysis in as part of this document. Environmental justice concerns will be evaluated for individual locations on a case-by-case basis.

B. Site Background

On July 24, 2000, U.S. EPA was informed by a resident of a home located at Elmhurst Ave, Mt Prospect, Illinois that a mercury spill had occurred at the home and several others in the immediate area. Upon further investigation, U.S. EPA discovered that on or about July 12, 2000, Nicor and its subcontractor Henkels & McCoy, Inc. (HMI) were relocating outdated gas meters and associated regulators from residential basements to the outside of the homes. Many older gas meter regulators connected to high pressure gas mains were manufactured to include a mercury filled component which contained up to approximately two ounces of metallic mercury. The HMI employee performing the meter replacement would, as common practice, leave the open container of mercury removed from the regulator on the basement floor upon completing the work. Eventually the container would spill on the basement floor and in many cases the mercury would unknowingly be tracked throughout the homes by the occupants and to neighboring homes. U.S. EPA also received an NRC report from Nicor with regard to spillage of mercury in residential homes.

On July 25, 2000, U.S. EPA, its START contractor and the personnel from Agency of Toxic Substances and Disease Registry (ATSDR) responded to the scene of the residential spills and were informed that at least four other Mt. Prospect homes were potentially contaminated. Nicor had retained a cleanup contractor (SET Environmental Services) and an industrial hygiene firm (Hygieneering, Inc.) who had been performing decontamination activities since 7/22/00. U.S. EPA determined that cleanup activities appeared adequate but that confirmation air sampling procedures and cleanup levels to be attained were inadequate. Nicor was informed of proper confirmation protocols to be initiated and were asked to generate and adopt a formal air sampling plan to be reviewed and approved by U.S. EPA and ATSDR.

ATSDR contacted the Illinois State Health Department (IDPH) to inform that agency of the spill incidents. Both ATSDR and IDPH have been consulting with many of the residents to ensure that proper medical testing and monitoring have been made available to the residents by Nicor. During the cleanup phase, residents have been relocated to nearby hotels until the homes have been properly decontaminated and deemed safe for re-occupancy.

On July 31, 2000, U.S. EPA issued a general notice letter to Nicor, indicating that further investigation and cleanup of potentially contaminated residences was required. Nicor continued to investigate and cleanup homes voluntarily, under oversight from U.S. EPA, ATSDR, and IDPH.

On August 1, 2000, U.S. EPA and ATSDR were informed of other homes in the Lombard, Illinois area which might be contaminated due to improper mercury regulator replacement by Nicor and/or HMI. At the request of U.S. EPA, START personnel were

directed to continue air monitoring support at both residential areas as necessary. Residents of the affected Lombard homes were also relocated. Approximately thirteen homes in the Lombard area were identified as being potentially contaminated. The majority of the Lombard homes were contaminated by neighbors and friends unknowingly tracking out mercury from the two primary homes where mercury regulators had spilled in the basement due to improper removal.

On August 3, 2000, Nicor forwarded its response to a U.S. EPA CERCLA Information Request. The response included a list of approximately 85 homes where the subcontractor, HMI, might have performed a mercury regulator change within the last year or so. This information greatly expanded the number of potentially contaminated homes located in nine other suburban towns. When Nicor refined the actual number of homes where HMI might have performed work, approximately 120 homes were identified and inspected of which approximately twenty homes were discovered to be contaminated requiring cleanup in addition to those previously identified. During this time, early to mid August, Nicor was also screening scores of other homes as requested by Nicor customers who have been calling into a hotline established by Nicor to identify homes where subcontractors other than HMI may have recently performed a regulator change out. On August 25, 2000, a home was screened for mercury contamination where a Nicor employed technician replaced a mercury regulator in 1989. Metallic mercury was discovered in the basement near the location of the former meter set and required cleanup. It was at this point that Nicor made the decision to screen all homes where either subcontractors or Nicor employees may have removed a mercury regulator in the past. On August 26, 2000, Nicor announced that up to 200,000 homes would be inspected and/or screened. Nicor offered a 90 day to six month time frame for this to be completed.

U.S. EPA, ATSDR, and IDPH have been working with Nicor to develop a plan to efficiently and effectively accomplish this task. It was agreed that those homes where a mercury regulator was most recently removed (within the last five years) or homes where the occupants may be pregnant or of a very young age would be screened first. Nicor planned to begin this process in early September.

U.S. EPA continues to be involved in the monitoring and progress of cleanup activities and ensuring that proper air monitoring protocols are being followed. U.S. EPA contractors are performing air monitoring support as necessary and collecting final air samples from random homes to compare with Nicor generated results. ATSDR continues to coordinate and work closely with local and state health officials to ensure that appropriate medical testing is being provided by Nicor and that residents are receiving proper information concerning the health effects of mercury contamination.

As evidence of sloppy and inconsistent handling of mercury mounted, U.S. EPA required Nicor to expand its investigation. Specifically, Nicor was directed to

investigate the Nicor service centers where regulators were taken after removal from residences, and to investigate scrap yards where the regulators were taken after processing. These locations, which are largely outdoors, pose a greater threat of immediate release or mercury and mercury vapors to the environment than does mercury contamination inside residences.

On August 31, 2000, Nicor formerly notified U.S. EPA that at least one scrap yard, Chicago Heights Iron & Supply Co., was discovered to possess up to twelve mercury regulators that had been discarded as non-hazardous scrap metal. On Friday September 1, 2000, OSC Stimple confirmed the presence of possibly one hundred or more regulators located in several piles on the scrap yard property. Mercury vapor was detected in close proximity of the piles through the use of a Jerome Mercury Vapor analyzer and metallic mercury was visually observed to still be contained in at least or of the regulators discovered. According to the scrap yard owner, between three and five loads (ten cubic yard lugger boxes) of discarded Nicor regulators and miscellaneous scrap metal was removed from the Nicor Glenwood service center per year over approximately ten to twelve years.

On Saturday September 2, 2000, U.S. EPA and the Illinois EPA began inspections of other scrap yards identified by Nicor, who may have purchased what was supposed to be non-hazardous scrap metal to be later recycled for future reuse. Federal and state inspectors also began inspecting Nicor service centers. When mercury regulators were removed from residential or industrial settings, the regulators were transported to these field offices. Nicor employees were to have removed the remaining metallic mercury from the regulators. It appears that Nicor did not have adequate procedures in place for removing mercury, or those procedures were not followed.

ATSDR uses the cleanup guideline value of 0.3 micrograms per cubic meter of air (ug/m^3) up to 1.0 ug/m^3 and variables such as sample location, occupants ages, and whether pregnant woman reside in the home to evaluate if the home is safe for return. Confirmation air samples are collected using a pump and tube method and analyzed at a certified laboratory (see formal sampling plan for more details). ATSDR uses 2-9 ug/m3 as a cleanup guideline value for schools and commercial settings. The National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Level (REL) for worker safety is 50 ug/m3.

III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the NMS Sites present releases and potential threats of releases of a CERCLA hazardous substance, that may pose an imminent and substantial endangerment to the public health, welfare, or the environment, and meet the criteria

for a time critical removal action provided for in the National Contingency Plan (NCP), 40 C.F.R. Section 300.415(b)(2). These criteria include:

a) Actual or potential exposure to nearby human populations, or animals, or the food chain from hazardous substances or pollutants or contaminants;

This factor is present at the NMS Sites due to the presence of metallic mercury and the associated elevated vapor levels. Mercury vapor levels in the residences were elevated well above the ATSDR recommended long term exposure guideline value of 0.3 ug/m^3, in some instances exceeding 200 ug/m^3. The potential also existed for the mercury to be unknowingly tracked throughout the home, as well as to the outside and potentially to other residences. Additionally, the presence of mercury regulators and residual metallic mercury discovered at scrap yards, Nicor service centers and potentially at industrial facilities presents a potential exposure risk to worker populations as well as to the environment as a result of soil contamination from leaking regulators. Mercury vapor levels discovered in at least two Nicor service centers in the Chicagoland area have exceeded the NIOSH REL of 50 ug/m^3. IEPA recorded mercury vapor levels inside the Bellwood facility up to 137 ug/m^3 and in a roll off box at 403 ug/m^3. IEPA recorded levels inside the Crestwood service center up to 51 ug/m^3. The presence of elemental mercury and elevated mercury vapor levels may be likely at other similar locations in light of these results.

Mercury poses a threat through inhalation, ingestion, and direct contact routes of exposure, and can result in severe nausea, vomiting, abdominal pain, bloody diarrhea, kidney and liver damage, and even death. Metallic mercury is highly toxic when inhaled, and attacks the central nervous system by destroying neurons.

Mercury is a characteristic waste under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. § 6901 et seq ., as amended, and 40 C.F.R. § 261.24, and is a hazardous substance under 101(14) of CERCLA, 42 U.S.C. § 9601(14).

b) **Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that pose a threat of release;**

Large, bulk containers of mercury are not present at these Sites. However, a large number of gas regulators containing mercury are improperly stored and may pose a threat of release until they are properly secured and disposed of.

c) **The availability of other appropriate federal or state response mechanisms to respond to the release;**

The State of Illinois has specifically requested and encouraged U.S. EPA's participation in the investigation and cleanup of contamination arising from Nicor's handling of regulators containing mercury. The State and local Agencies involved appear to lack the funds, resources and expertise to comprehensively oversee Nicor's cleanup activities or to conduct the cleanup activities.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the suspected hazardous substances on-site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from the NMS Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

The purpose of the emergency removal action is to mitigate the immediate threats posed to public health, welfare, or the environment by the presence of metallic mercury and the associated elevated mercury vapor levels. Removal activities at the NMS Sites covered by this Action Memorandum include identification and screening of all scrap yards, Nicor service centers, and other industrial facilities that are potentially contaminated and performing appropriate cleanup of any and all of these locations. Specifically, the following activities are to be performed:

1) Develop and implement a work plan;

2) Develop and implement a health and safety plan;

3) Develop and implement an air monitoring and sampling and analysis program to identify and confirm the extent of mercury contamination within the commercial facilities, scrap yards, and Nicor service centers;

4) As soon as any necessary inspections and investigations of the locations are complete, remove and properly dispose of mercury contaminated materials from the service centers, commercial structures and scrap yards as necessary;

5) Secure and decontaminate affected building floors and walls, and conduct air confirmation sampling to verify that the structures are being decontaminated to acceptable levels, as determined by the OSC in consultation with ATSDR;

6) Transport and dispose of all hazardous substances, pollutants, wastes or contaminants at a RCRA-approved disposal facility, in accordance with the USEPA Off-Site Rule, 40 C.F.R. § 300.440, 58 Federal Register 49215 (September 22, 1993);

7) Formally report to U.S. EPA all activities performed and information associated with the above listed activities on a weekly basis.

Cleanup of scrap yards, Nicor service centers, and any industrial facilities identified will be completed as quickly as possible given the extent of contamination. Residential removal activities are continuing voluntarily (and so are outside the present scope of this Action Memorandum) and may require up to approximately four to six months to complete. The threat posed by the presence of metallic mercury and mercury vapor at the private residences, commercial facilities and scrap yards meet the criteria listed in § 300.415(b)(2) of the NCP and the removal actions undertaken are consistent with any long-term remedial action which may be required.

The OSC has planned for the provision of post-removal site control, consistent with the provisions of § 300.415(l) of the NCP. The nature of this emergency action (the complete removal of metallic mercury and mercury contaminated debris from the NMS Sites) to recommended levels eliminates the need for any post-removal site control.

The response actions described in this Action Memorandum directly address actual or threatened releases of hazardous substances, pollutants, or contaminants at the NMS Sites, which may pose an imminent and substantial endangerment to public health, welfare or the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) were complied with to the extent practicable. Federal ARARs for these Sites include RCRA. As the materials being dealt with are likely to be RCRA characteristic wastes, they will be handled accordingly.

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the site conditions, the nature of the hazardous substances documented on-site, and the potential exposure pathways to nearby populations described in Sections II and III above, actual or threatened releases of hazardous substances from the NMS Sites, if

not addressed by implementing the response actions selected in this Action Memorandum, would present an imminent and substantial endangerment to public health, or welfare, or the environment.

VII. OUTSTANDING POLICY ISSUES

Because residential mercury contamination can result in the release of mercury to the external environment, clean-up of mercury in interior spaces is therefore appropriate. Similar policy factors apply to mercury contamination inside commercial structures.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for the NMS Sites is contained in the Enforcement Confidential Addendum.

IX. RECOMMENDATION

This decision document represents the selected removal action and determination of threat for the Nicor Mercury Spill Sites, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site (Attachment 2). Because the conditions at the NMS Sites meet the NCP § 300.415(b)(2) criteria for an emergency removal action, I recommend your approval of this removal action. You may indicate your decision by signing below.

APPROVE: _____ DATE: 9/6/00
Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

Attachments:
1) Enforcement Addendum
2) Administrative Record Index

cc: K. Mould, USEPA, OERR, 5202-G
M. Chezik, U.S. Department of the Interior, **w/o Enf. Addendum**
J. O'Brien, IEPA, Springfield, IL, **w/o Enf. Addendum**

NICOR MERCURY SPILL SCRAP YARDS SITES
NORTHERN ILLINOIS
ORIGINAL AR

BCC PAGE

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

NICOR MERCURY SPILL SCRAP YARDS SITES
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ATTACHMENT 1

ENFORCEMENT ADDENDUM
1 PAGE

REDACTED

NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

ATTACHMENT 2
U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
NICOR MERCURY SPILL SCRAP YARDS SITES
NORTHERN ILLINOIS

ORIGINAL
SEPTEMBER 8, 2000

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	07/26/00	Fiore, M., Hygieneering, Inc.	Stimple, B., U.S. EPA; et al.	FAX Transmission re: Sampling Protocol for Mercury Contamination within a Residential Home	4
2	07/31/00	Karl, R., U.S. EPA	Crawford, C., Hinkels & McCoy, Inc.	Letter re: General Notice of Potential Liability and Request for Information for the Nicor Mercury Spill Sites w/ Attachment	8
3	07/31/00	Karl, R., U.S. EPA	Nicor Gas c/o A. Foster-Rice; *Gardner, Carton & Douglas*	Letter re: General Notice of Potential Liability and Request for Information for the Nicor Mercury Spill Sites	6
4	07/31/00	U.S. EPA	File	Tables: U.S. EPA/START Mercury Vapor Air Monitoring Results for the Period July 25-July 31, 2000 at the Nicor Mercury Spill Sites	12
5	08/03/00	Foster-Rice, A.; *Gardner, Carton & Douglas*	Ropski, C., U.S. EPA	Letter re: Nicor's Response to U.S. EPA's July 31, 2000 General Notice of Potential Liability and Request for Information Letter for the Nicor Mercury Sites [ATTACHMENTS HAVE BEEN REDACTED]	8
6	08/10/00	Stimple, B., U.S. EPA	Tappen, R., Nicor Gas	Letter re: Screening of Additional Homes Potentially Contaminated with Mercury at the Nicor Mercury Spill Sites	1

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
7	08/15/00	Stimple, B., U.S. EPA	Distribution List	Memorandum: Pollution Report (POLREP) #1 [Initial] for the Nicor Mercury Spill Sites	3
8	08/18/00	Foster-Rice, A.; *Gardner, Carton & Douglas*	Krueger, T., U.S. EPA	Letter re: Nicor's Response to U.S. EPA's August 10, 2000 Letter Concerning Screening of Additional Homes Potentially Contaminated with Mercury at the Nicor Mercury Spill Sites	2
9	09/01/00	Karl, R., U.S. EPA	Malis, L., Chicago Heights Iron & Supply	Letter re: General Notice of Potential Liability for the Nicor Mercury Spill Sites (Scrap Yards and Processing Facilities)	3
10	09/01/00	Karl, R., U.S. EPA	Tribble, C., Nicor Gas	Letter re: General Notice of Potential Liability for the Nicor Mercury Spill Sites (Scrap Yards and Processing Facilities)	5
11	09/01/00	Nicor Gas	Illinois EPA	FAX Transmission re: Nicor Scrap Collection Contractor List	1
12	09/06/00	Stimple, B., U.S. EPA	Muno, W., U.S. EPA	Enforcement Action Memorandum: Request for an Emergency Removal Action at the Nicor Mercury Spill Sites in Cook, DuPage, Kane, Lake, LaSalle and McHenry Counties (PORTIONS OF THIS DOCUMENT HAVE BEEN REDACTED)	14

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
13	09/08/00	Latham, M., *Gardner, Carton & Douglas*	Ropski, C., U.S. EPA	Letter re: Nicor's Response to U.S. EPA's September 1, 2000 General Notice of Potential Liability and Request for Information Letter for the Nicor Mercury Sites (Scrap Yards and Processing Facilities) [ATTACHMENTS HAVE BEEN REDACTED)	8
14	09/08/00	Stimple, B., U.S. EPA	Distribution List	POLREP #2 for the Nicor Mercury Spill Sites	4